Remarks

In response to the new rejection for obviousness over Jordan in view of Bisson, the following comments are made.

The appeal brief explained that a distinctive feature of the claims of this invention is preserving the client signal buffer-to-buffer flow control when processing the client signal to map it to a synchronous network. This can help make the synchronous network transparent to the client signal, meaning that client signal nodes at each side of the synchronous link can appear on the same client network. This helps simplify management of the client network.

The Examiner acknowledges that Jordan shows a conventional buffer for absorbing rate changes at an interface from a packet network to a synchronous network. The Examiner acknowledges that Jordan does not show preserving a buffer to buffer flow control mechanism of a client signal before mapping the signal to a synchronous network payload.

The Examiner indicates that Bisson shows a buffer to buffer flow control mechanism, and tries to argue that it would have been obvious to incorporate this buffer to buffer flow control in Jordan. The Examiner does not provide any more details on exactly which parts of Bisson would be incorporated, nor how they would be incorporated.

Bisson states that it is concerned with transporting optical line data, such as from a fiber channel (FC) or Gigabit Ethernet (GbE) interface, to a fiber metropolitan or wide area network (MAN/WAN). Bisson describes as background that it is known to transport optical line data from an enterprise server to a remote device such as a storage device (such as to extend the storage area network to enable storage service providers to offer out-sourced storage services to the enterprise). This can be based on I/O channel protocols such as FC1, GbE and ESCON, but these are not suitable for interfacing to metropolitan (wide) area networks which extend over much greater distances. At present such metro area networks (e.g. a metro DWDM transport network) are structured so as to assign an entire fiber wavelength to each data link in order to achieve low latency and high bandwidth. This is costly and the number of customers they are able to serve is limited to the number of wavelengths deployed in the network. Other possible available options include the use of IP or

ATM packet switching methods but IP switching inherently drops packets in an overload situation and, further, its transport protocols are relatively heavyweight. ATM switching is also of high cost and is not able to scale well in the Gbps data rate range required for storage traffic. Disadvantageously, the head of line blocking which results from the use of packet routers causes jitter at Gbps data rates. Further, if a normally switched SONET network is used it is necessary to include large realignment buffers at each end (to account for a differing delays incurred by different STS-1s due to different flow paths) and such buffers introduce undesirable latency (i.e. large transmission delays).

Bisson therefore suggests providing a multiplexer for transporting client data from an optical serial link (such as a fiber channel (FC) or Gigabit Ethernet (GbE) interface) to a clear optical channel of a metro or wide area link based on the SONET standard (e.g. OC-48 or OC-192) comprising N STS-1s. A mapper maps, according to a predetermined bandwidth allocation, the data to an N.times.STS-1 SONET payload.

Bisson therefore does show interfacing a client signal to a synchronous network including mapping as claimed. But Bisson does not show buffer to buffer flow control, and therefore cannot show preserving this buffer to buffer flow control mechanism when doing the mapping.

The Examiner cites page 4 cols 53-65 (presumably meaning col 4 lines 53-65) of Bisson. But this passage relates to fig 3 (b) and states:

> "The HDLC framing is done by an HDLC encoder utilizing octet stuffing (as necessary) to ensure that the frame content never matches the frame delineation flag in value. The flag sequence of the HDLC frame is a binary sequence used for frame synchronization. The address field is a double octet. The control field is a single octet and identifies the frame type (i.e. client data, primitive sequence, client path messaging or path flow management) and an optional control frame type field identifies the type of control frame (used only when the frame type is path messaging or flow management). The data field's organization is dependent upon the type of frame it is: client data frames have FC or GbE frames embedded in them whereas path messaging or flow management frames have a fixed length and content type according to the type of frame. The frame check sequence (FCS) field (also referred to as the Cyclical Redundancy Check (CRC)) defaults to 16 bits (two octets) and is calculated overall bits of the address, control, control frame type and data fields. "

There is no suggestion here that the client signal (such as FC1, GbE and ESCON) has a buffer to buffer control mechanism in the signal, nor that any such mechanism is preserved.

There is mention in fig 7 of Bisson and associated description that a "flow control component 149 includes buffers that perform rate adaptation and absorb bursts of data from the client. The flow control component 149 regulates the flow of data across the network by monitoring the status of the buffers at each end of the link and provides feedback to the protocol control component 148 when the buffers are filling. This feedback is used to regulate the client transmissions and prevent buffer overflow."

But this is a conventional flow control which controls the rate of flow in the synchronous SONET network. This is not a flow control mechanism "of the client signal". This is confirmed by the fact that part 149 is stated as monitoring the status of buffers at both ends of the link. This can only be the SONET link. Hence this is flow control of the synchronous network. The present claims do not recite flow control of the synchronous network, they only recite the fundamentally different feature of flow control of the client signal. Hence there is no suggestion here of the claim feature of a processing "which preserves a buffer-to-buffer flow control mechanism (300, 310a) of the client signal...."

Furthermore, there is no implied disclosure of preserving the buffer to buffer flow control of the client, since the synchronous network has its own flow control mechanism.

Accordingly, even if Bisson were to be combined with Jordan, (and this is not admitted to be obvious), there is no suggestion of the distinctive feature of claim 1 as explained in the Appeal Brief. Hence it cannot be obvious to reach claim 1 from either of these references, nor from any notional combination of them. The other cited references are cited against features of dependent claims, and so are less relevant. The same reasoning applies to all the claims as they are either dependent on claim 1 or have corresponding features.

This means all the items raised have been dealt with and favorable reconsideration is requested.

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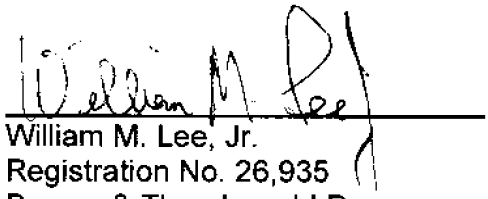
Respectfully submitted,



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